

# Notice of Allowability

Application No.

10/691,317

Examiner

Minerva Rivero

Applicant(s)

SANO ET AL.

Art Unit

2627

## -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 9/25/06.
2. ☒ The allowed claim(s) is/are 1-10.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All b) ☐ Some\* c) ☐ None of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

### Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date \_\_\_\_\_
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

WAYNE YOUNG  
SUPERVISORY PATENT EXAMINER

## DETAILED ACTION

### *Allowable Subject Matter*

1. Regarding claims 1, 4 and 8, Kim *et al.* (US 6,034,935) discloses an optical head device, comprising:

- a light source for emitting light (Col. 2, Line 56);

- a collection optical system for collection the light emitted by the light source to an information memory medium including tracks having prescribed grooves (Col. 2, Lines 50-51);

- a light detector having a plurality of detection areas for receiving the light reflected by the information memory medium and outputting a signal in accordance with a light amount of the light received (Col. 2, Line 63);

- a differential operation circuit for receiving the signals output from the light detector and generating a differential signal based on the signals (Col. 4, Lines 31-34);

and

- a light division element for dividing a reflected light reflected by the information memory medium (Col. 11, Line 66 – Col. 12, Line 2).

However, Kim *et al.* do not disclose nor fairly suggest

- a relationship  $\lambda/(NA \cdot 2T_p) \geq 1$  is satisfied where  $\lambda$  is the wavelength of the light emitted from the light source, NA is the numerical aperture of the collection optical

Art Unit: 2627

system, and  $T_p$  is the distance from a center of the track in the information memory medium to a center of the adjacent track; and

the differential operation circuit generates a differential signal from an area except for an overlapping area of the reflected light, the overlapping area being an area of overlapping two circles each having a radius of 1 and having a center of one circle being apart from a center of the reflected light beam at a distance of  $\lambda/(NA \cdot 2T_p)$  in a direction orthogonal to the track from a center of a cross-section of the reflected light, when the cross-section of the reflected light on the light division element in a circle having a radius of 1.

Therefore claims 1, 4 and 8, and their dependent claims, 2-3, 5-7 and 9-10, respectively, are allowed.

### ***Conclusion***

2. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Minerva Rivero whose telephone number is (571) 272-7626. The examiner can normally be reached on Monday-Friday 9:00 am - 6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wayne Young can be reached on (571) 272-7582. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2627

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MR 12/2/06



WAYNE YOUNG  
SUPERVISORY PATENT EXAMINER